STEREO CASSETTE MUSIC SYSTEM

MODEL NO. AF-5300E,K

≡ AF-5600K

AIWA®

[SERVICE MANUAL]

Cord No.: 05-530-000-18

DATE OF ISSUE 11/1978

SPECIFICATIONS

Model type: Stereo cassette system
Semiconductors: 8 IC's, 1 FET, 61 transistors
31 diodes, 5 LED's
Power supply: AC 120V/220V
switchable 50/60 Hz (E model)
AC 120V/240V
switchable 50/60 Hz (K model)
Power consumption: 170W
Dimensions: 591(W) x 168(H) x 469(D) mm
(w/dust cover)
Weight: 13 kg (w/dust cover)
Accessories:

Indoor FM antenna	1
Head cleaning stick	1
Cassette tape	1

< Tuner Section >

Frequency range:

FM:	87.5~108 MHz (3.4~2.8 m)
SW:	5.7~16.7 MHz (53~18 m)
MW:	515~1650 kHz (582~182 m)
LW:	145~350 kHz (2069~857 m)

Sensitivity:

(IHF, THD 3%) FM:	6±2 dB (at 88, 98, 108 MHz)
(S/N 20 dB) SW:	27±5 dB (at 6 MHz) 25±3 dB (at 10 MHz) 24±3 dB (at 16 MHz)
(S/N 20 dB) MW:	50±3 dB (at 600 kHz) 49±3 dB (at 1000, 1600 kHz)
(S/N 20 dB) LW:	62±3 dB (at 150 kHz) 60±3 dB (at 240, 340 kHz)

FM Frequency response: 30~15,000 Hz
FM Signal to noise ratio: 70±5 dB
(Weighted)
FM distortion: 0.1±0.05%
Muting level: 17±3 dB
Antennas:

FM:	300 ohms (balanced) 75 ohms (unbalanced)
AM:	Built-in antenna, terminal for external antenna

< FM Multiplex Section >

Separation: 43±3 dB (at 1 kHz)
Distortion: Less than 0.5%
Two signal selectivity: Less than 60 dB

< Turntable Section >

Model type: Belt drive automatic turntable
Motor: FG servo motor
Speeds: 33-1/3 and 45 rpm
Signal to noise ratio: More than 60 dB
(Weighted, DIN B)
Wow and flutter: Less than 0.12% (DIN)
Cartridge type: Moving magnet (MM)
Separation: 19 dB (33-1/3 rpm,1 kHz)
Tracking force: 2±0.3g

< Cassette Tape Deck Section >

Track format: 4 tracks 2 channel
Tape speed: 4.76 cm/sec. ±1.5%
Recording time: 60 minutes (C-60)
Recording system: AC bias
Erasing system: AC erase
Record bias frequency: 61 kHz
Frequency response:

Normal (LH) tape:	30~12,500 Hz
Fe-Cr tape:	30~16,000 Hz
CrO_2 tape:	30~16,000 Hz

According to DIN 45500 Blatt 8

Normal (LH) tape:	30~12,500 Hz
Fe-Cr tape:	30~15,000 Hz
CrO_2 tape:	30~15,000 Hz

Distortion:

Normal (LH), Fe-Cr tpae:	$1.0^{+1.0}_{-0.5}$%
CrO_2 tape:	$1.5^{+1.0}_{-0.5}$%

Signal to noise ratio:

(Un-weighted, REC/PB) Normal (LH) tape:	43±2 dB
Fe-Cr, CrO_2 tape:	44±3 dB

Erase ratio: 65±5 dB
Wow and Flutter: Less than 0.07% (WRMS)
According to DIN 45500 Blatt 8
Less than 0.18%
Pinch roller pressure: 275±25g
Take-up torque: 50±10g-cm
FF torque: 100±10g cm
Rewind torque: 95^{+10}_{-5}g-cm
FF & rewind time: 80±10 sec. (C-60)

< Audio Section >

Circuitry: Pure complementary SEPP OTL
Continuous output power:

(20 Hz~40 kHz/THD 1%)	18W+18W (8 ohms) 20W+20W (4 ohms)
(1 kHz/THD 1%)	20W+20W (8 ohms) 25W+25W (4 ohms)

Music output power:
35W +35W (8 ohms)
40W+40W (4 ohms)
Loudness response: +8 ±2 dB (at 100 Hz)
(With volume at −40 dB) −6 ±2 dB (at 10 kHz)
Tone controls:
Bass: 100 Hz ±8 dB
Treble: 10 kHz ±9 dB
Gain and input impedance:

MIC:	1 mV (200 ohms~10 k-ohms)
DIN IN: (TAPE PLAY)	200 mV (500 k-ohms)

Output level and impedance:

DIN OUT: (TAPE REC)	0.45 mV/k-ohm
SPEAKERS:	4–8 ohms
PHONES:	8 ohms

- Specifications and design are subject to change without notice due to product improvements.
- Dolby Noise Reduction Circuit under License from Dolby Laboratories Incorporated.
- The word "Dolby" and "Double-D" symbol are trademarks of Dolby Laboratories Incorporated.

DISASSEMBLY INSTRUCTIONS

1. To Remove Turntable

1) Remove the platter
2) Loosen 2 turntable frame securing screws and slide in directions shown by arrows.
3) Disconnect 3 turntable connectors. (Refer to Fig. 1)

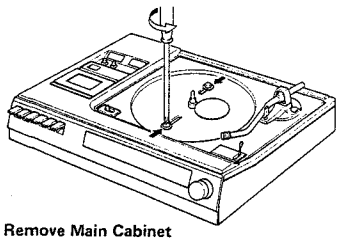


Fig. 1

2. To Remove Main Cabinet

1) Pull out the 2 knobs.
2) Remove 8 screws. (Refer to Fig. 2, 3)

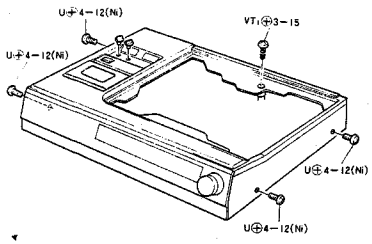


Fig. 2

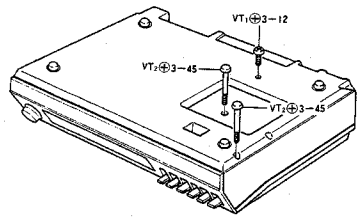


Fig. 3

3. To Remove Tuner Circuit Board

1) Remove the dial drum. (Refer to Fig. 4)
2) Remove 2 stoppers and 5 screws. (Refer to Fig. 5)

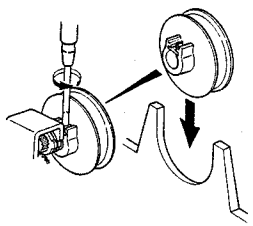


Fig. 4

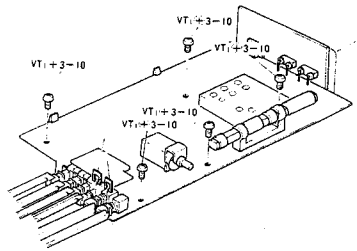


Fig. 5

4. To Remove Main Amp. Circuit Board

1) Remove 3 screws. (Refer to Fig. 6)

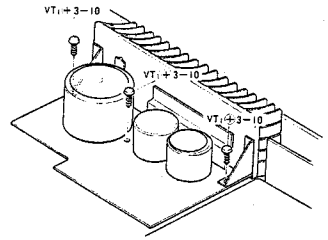


Fig. 6

5. To Remove Front Panel

1) Pull out the control knobs.
2. Remove 6 screws. (Refer to Fig. 7)

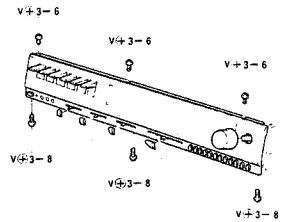


Fig. 7

6. To Remove FM Pre-set Circuit Board

1) Remove 2 scress. (Refer to Fig. 8)

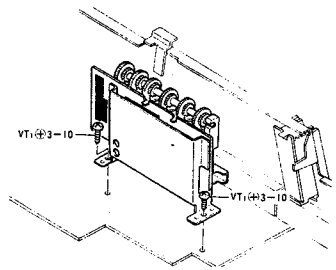


Fig. 8

7. To Remove Pre Amp./Switch Circuit Board

1) Remove 11 screws. (Refer to Fig. 9)

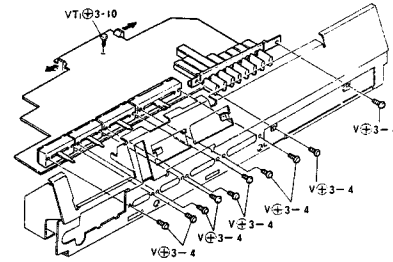
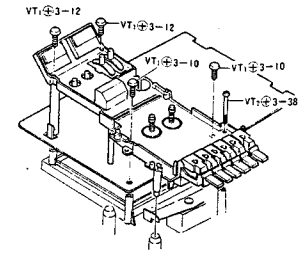


Fig. 9

9. To Remove Cassette Grille

1) Remove 7 screws. (Refer to Fig.10, 11)



8. To Remove Rec./Pb. Circuit Board

1) Remove the rec./pb. circuit board. (Refer to Fig. 10)

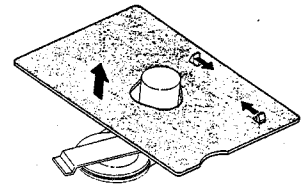


Fig. 10

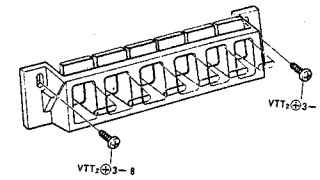
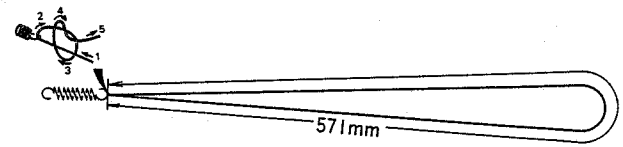
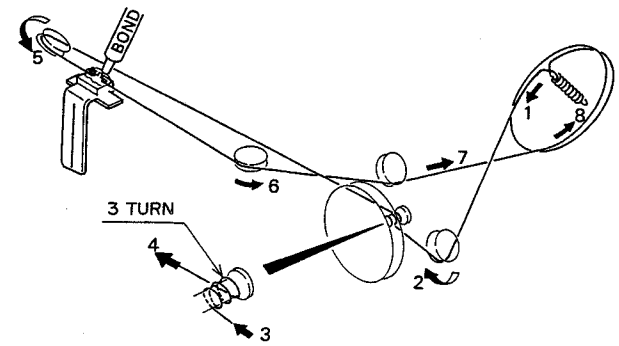


Fig. 11

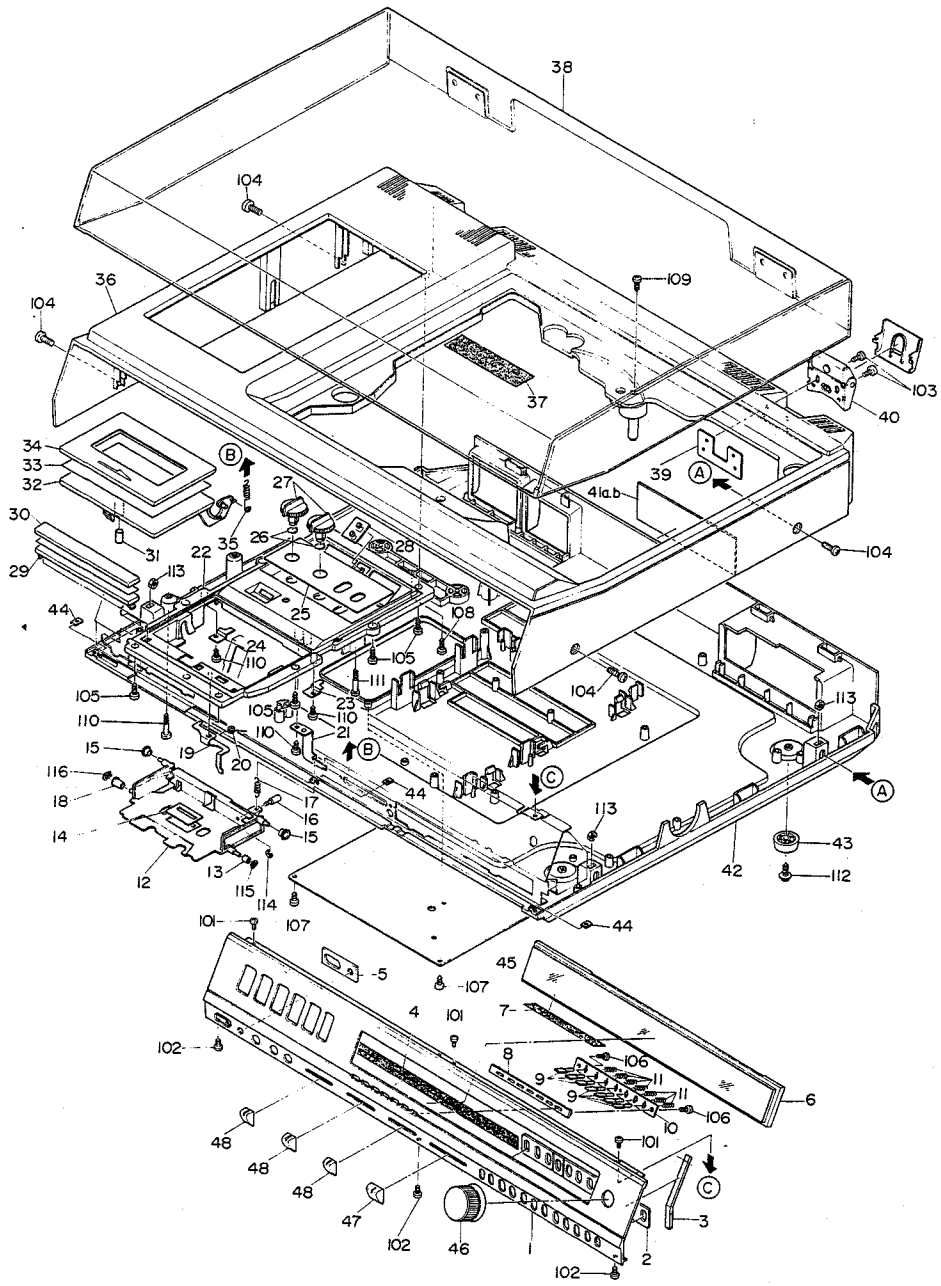
For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk

DIAL CORD STRINGING





EXPLOPED VIEW-1



PARTS LIST

MECHANICAL PARTS

■ * mark in this part list shows exclusive part (which is used) for only Model AF-5300.

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1~7	09-047-131-01		Panel Assembly		
1-1	82-493-008-01		Front panel	*	1
1-2	82-493-217-01		Push-button guide A	*	1
1-3	82-493-255-01		S-cushion	*	1
1-4	82-493-042-01		Blind himeron cloth	*	1
1-5	82-493-219-01		Power button guide	*	1
1-6	82-493-007-01		Dial window	*	1
1-7	82-493-252-01		Himeron cloth, Pre-set	*	1
1-8	82-493-218-01		Push-button guide B	*	1
1-9	82-493-039-01		Pre-set button	*	7
1-10	82-493-210-01		Holder, Preset button	*	1
1-11	82-493-242-01		C spring	*	7
1-12	82-474-229-01		Up-plate ass'y	AF-5050	1
1-13	82-386-211-11		Collar, Up-plate	AD-1250	1
1-14	82-474-072-01		Label, Tape indication	AF-5050	1
1-15	82-470-224-01		Push gear	AF-3030	2
1-16	82-474-260-01		CrO_2 shaft	AF-5050	1
1-17	82-474-240-01		H spring, Up-plate	AF-5050	1
1-18	82-386-258-01		Gear, Up-plate	AD-1250	1
1-19	82-474-221-01		Cassette lock lever	AF-5050	1
1-20	82-474-288-01		T spring, Cassette lock lever	AF-5050	1
1-21	82-474-225-01		Holder N	AF-5050	1
1-22	82-493-005-01		Cassette grille A	*	1
1-23	82-493-236-01		Holder, Cassette lid R	*	1
1-24	82-493-237-01		Holder, Cassette lid L	*	1
1-25	82-493-020-01		Plate, Rec. volume	*	1
1-26	82-493-256-01		Knob spring	*	2
1-27	82-541-025-01		Knob	TPR-950	2
1-28	82-493-046-01		Rec. plate E	*	1
1-29	82-493-029-01		Head cover	*	1
1-30	82-493-030-01		Decorative plate, Head cover	*	1
1-31	82-474-303-01		Cushion P, Cassette holder	AF-5050	1
1-32	82-474-012-01		Cassette lid	AF-5050	1
1-33	82-470-282-01		Adhesive paper, Cassette lid	AF-3030	1
1-34	82-493-045-01		Decorative plate, Head cover	*	1
1-35	82-474-239-01		H spring	AF-5050	1
1-36	82-493-001-01		Main cabinet	*	1
1-37	82-493-055-01		Himeron cloth 20 x 63	*	1
1-38	82-493-003-01		Dust cover ass'y	*	1
1-39	82-493-211-01		Holder, Hinge	*	2
1-40	87-064-090-01		Hinge ass'y		2
1-41a	82-493-040-01		Name plate, Spec. (E model only)	*	1
1-41b	82-493-048-01		Name plate, Spec. (K model only)	*	1
1-42	87-493-002-01		Rear cabinet	*	1
1-43	87-085-161-01		Foot		4
1-44	82-461-378-01		Leaf nut	TPR-930	3
1-45	82-493-202-01		Bottom plate	*	1
1-46	82-494-031-01		Knob, Tuning	AF-5600	1
1-47	82-474-042-01		Slide knob B	AF-5050	1
1-48	82-474-041-01		Slide knob A	AF-5050	3

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8 Cherry Tree Rd, Chinnor
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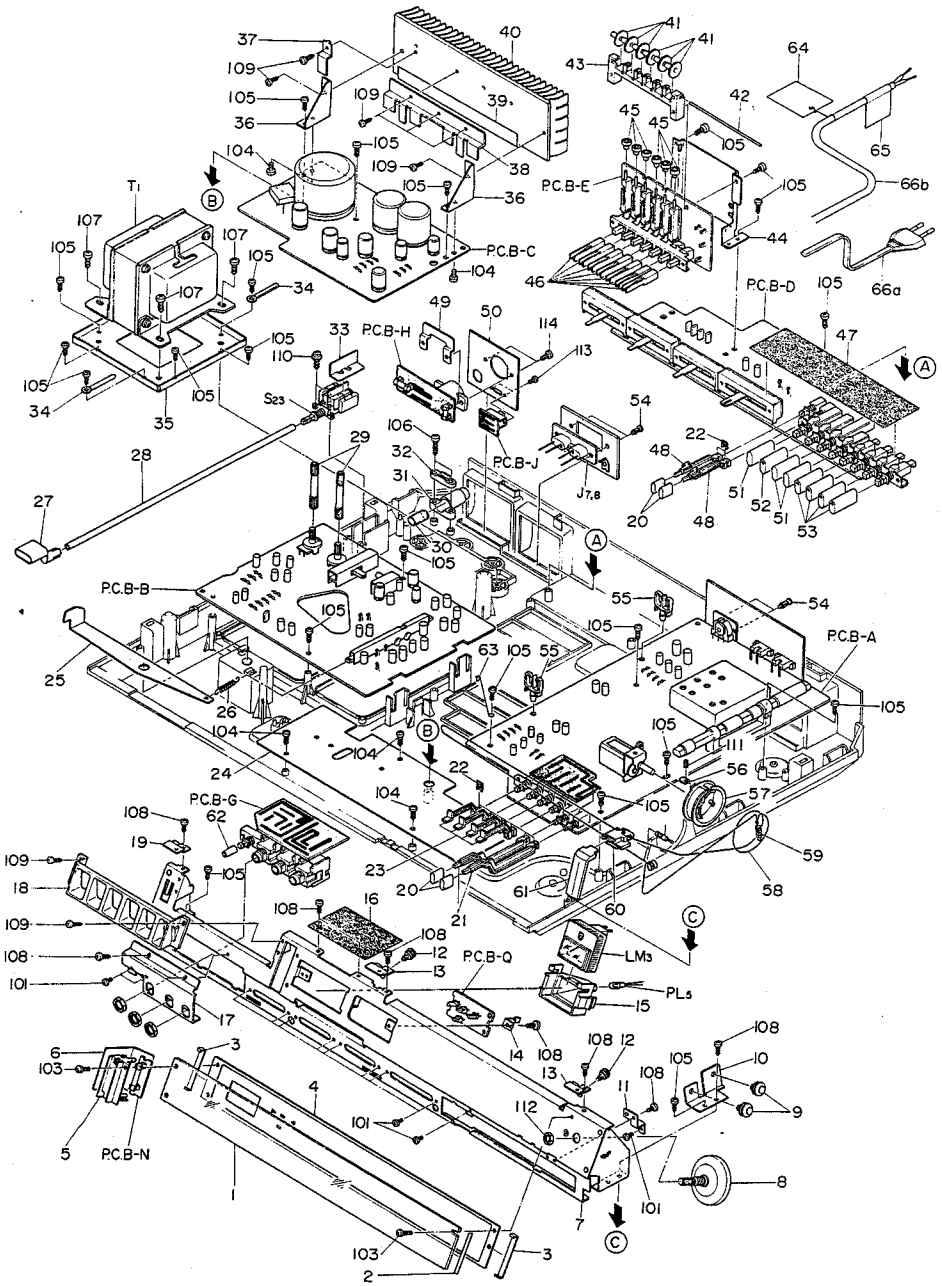
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk

EXPLODED VIEW–2

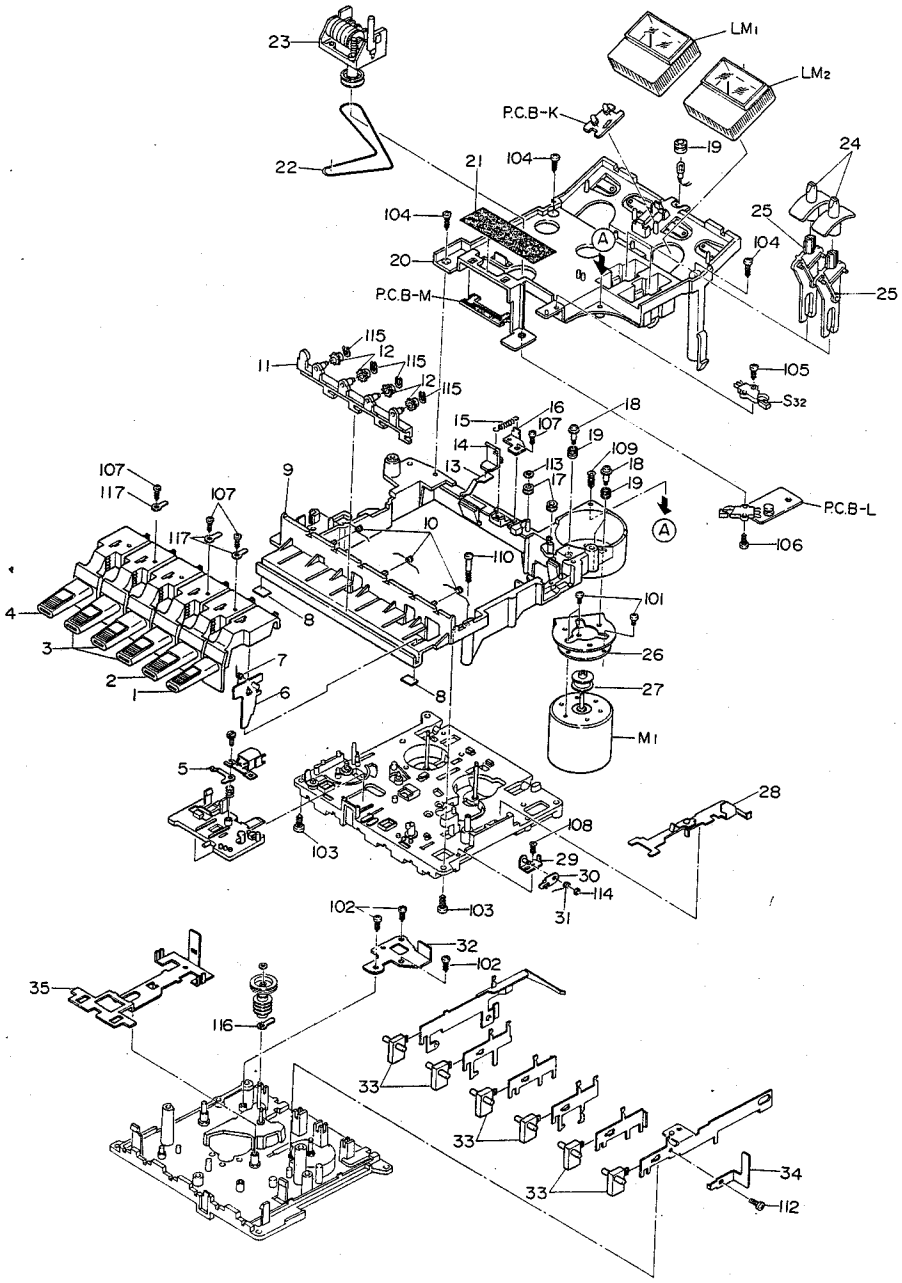


Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
2-1	82-493-015-01		Back plate, Tuning dial	*	1
2-2	82-493-253-01		Sheet 3.5 x 4.2	*	1
2-3	82-493-241-01		Clamp, Dial plate	*	2
2-4	82-493-010-01		Dial plate	*	1
2-5	82-493-250-01		Lamp holder	*	1
2-6	82-493-257-01		Sheet fibre	*	1
2-7	82-493-244-01		Front chassis ass'y	*	1
2-8	82-493-234-01		Tuning shaft ass'y	*	1
2-9	87-071-020-01		Roller 12φ		2
2-10	82-493-209-01		Holder, Pulley	*	1
2-11	82-493-213-01		Holder, Push-switch	*	1
2-12	87-071-019-01		Roller 7φ		2
2-13	82-493-248-01		Holder, Front panel A	*	2
2-14	82-493-243-01		Holder, LED circuit board	*	1
2-15	82-493-215-01		Reflector plate, Meter	*	1
2-16	82-493-254-01		Himeron cloth 45 x 90	*	1
2-17	82-493-206-01		Holder, MIC jack	*	1
2-18	82-493-017-01		Push-key guide	*	1
2-19	82-493-251-01		Holder, Front panel	*	1
2-20	82-493-023-01		Push-button C	*	4
2-21	82-493-223-01		Rod A	*	2
2-22	82-385-383-01		Stopper, Rod		8
2-23	82-493-224-01		Rod B	AD-6300	4
2-24	82-493-664-01		Shield plate, Pulley	*	1
2-25	82-493-214-01		Rec. lever	*	1
2-26	82-493-238-01		E spring	*	1
2-27	82-493-051-01		Power button	*	1
2-28	82-493-222-01		Switch joint, Power	*	1
2-29	82-493-220-01		Shaft, Rec. volume	*	1
2-30	87-830-605-01		Tube 6φ x 50 (E model only)		2
2-31	87-085-094-01		AC cord holder A		1
2-32	87-085-095-01		AC cord holder B		1
2-33	87-493-632-01		Shield plate, AC		1
2-34	87-038-039-01		Wire binder	*	1
2-35	82-493-204-01		Holder, Transformer		2
2-36	82-493-230-01		Holder, Heat sink	*	1
2-37	82-474-211-01		Transistor clamp	*	2
2-38	82-493-606-01		Transistor clamp	AF-5050	1
2-39	82-493-607-01		Insulation film	*	1
2-40	82-493-605-01		Heat sink	*	1
2-41	82-493-022-01		Knob, Pre-set	*	1
2-42	82-493-229-01		Shaft, Pre-set	*	6
2-43	82-493-212-01		Holder, Pre-set knob	*	1
2-44	82-493-205-01		Holder, Pre-set	*	1
2-45	82-493-227-01		Gear, pre-set	*	1
2-46	82-493-226-01		Rod D	*	6
2-47	82-493-258-01		Himeron cloth	*	7
2-48	82-493-225-01		Rod C	*	1
2-49	82-488-234-01		Holder, Voltage selector	*	2
2-50	82-493-013-01		AC cord plate	AX-7400	1
2-51	82-485-036-01		Push-button B	*	1
2-52	82-485-038-01		Push-button B (orange)	AF-5090	3
2-53	82-485-037-01		Push-button B (green)	AF-5090	1
2-54	87-084-063-01		Nylon rivet	AF-5090	4
2-55	87-064-089-01		Cable clip		4
2-56	82-461-378-01		Leaf nut		2
2-57	82-470-240-01		Dial drum	TPR-930	1
2-58	87-096-086-01		Dial string	AF-3030	1
2-59	82-439-359-01		Drum spring		1
2-60	82-474-053-01		Holder, Dial pointer	TPR-300	1
2-61	82-493-012-01		Tuning pointer	AF-5050	1
2-62	82-493-037-01		Speaker selector knob	*	1
2-63	82-471-212-01		Dial wire guide	*	1
2-64	87-056-014-01		Tag, Voltage selector (K model only)	AF-5080	1
2-65	87-056-008-01		Label, AC power cord (K model only)		1
2-66a	87-034-877-01		AC power cord (E model only)		1
2-66b	87-034-872-01		AC power cord (K model only)		1

AIWA MODEL NO. AF-5300E,K

EXPLODED VIEW–3

As this is a PM-1 mechanism, the exploded view is omitted (see the supplement PM-1 mechanism adjustment manual). The exploded view bellow shows the additional mechanism of the PM-1. Also shown are the attachments of the motor and a list of such.



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
3-1	82-493-028-01		Pause key	*	1
3-2	82-493-026-01		Push-key (blue)	*	1
3-3	82-493-025-01		Push-key	*	3
3-4	82-493-027-01		Push-key (red)	*	1
3-5	82-539-206-01		Earth plate, Erase head	TPR-905	1
3-6	82-474-209-01		Push-lever	AF-5050	6
3-7	82-474-234-01		Spring, Push-key	AF-5050	6
3-8	82-385-342-01		Spacer, Chassis	AD-6300	2
3-9	82-290-201-01		Sub-chassis		1
3-10	82-474-236-01		Spring, Push-key	AF-5050	3
3-11	82-474-211-01		Shaft, Gear	AF-5050	1
3-12	82-470-224-01		Gear	AF-3030	4
3-13	82-474-318-01		P spring	AF-5050	1
3-14	82-474-316-01		Cassette holder	AF-5050	1
3-15	82-474-320-01		E spring	AF-5050	1
3-16	82-474-317-01		Spring, Holder	AF-5050	1
3-17	82-474-321-01		Roller, Counter	AF-5050	2
3-18	87-081-483-01		Motor screw M2.6		3
3-19	82-439-319-01		Rubber cushion B	TPR-300	4
3-20	82-493-203-01		Holder, Counter	*	1
3-21	82-493-055-01		Himeron cloth 20 x 63	*	1
3-22	82-493-232-01		Belt, Counter	*	1
3-23	87-040-105-01		Counter		1
3-24	82-493-050-01		Selector knob		1
3-25	82-493-249-01		Selector lever	*	2
3-26	82-474-224-01		Holder M	*	2
3-27	82-541-279-01		Motor pulley	AF-5050	1
3-28	82-474-305-01		Up-plate lock lever ass'y	TPR-950	1
3-29	82-439-455-01		Holder lock plate ass'y	AF-5050	1
3-30	82-439-457-01		Lock plate	TPR-300	1
3-31	82-439-275-01		Spring, Lock plate	TPR-300	1
3-32	82-493-246-01		Auxiliary metal fitting, Motor	TPR-300	1
3-33	82-290-222-01		Knob	*	1
3-34	82-474-245-01		Rec. plate spring		6
3-35	82-439-269-01		Brake plate	AF-5050	1
				TPR-300	1

The following is the part number list of the ☆☆☆☆☆ marked parts of the PM-1 mechanism.

Ref. No.	Part No.	Description	Q'ty
1-13	82-385-332-11	Spring B, Head adjusting	1
1-14	87-046-130-01	Rec./Pb head	1
1-31	87-046-127-01	Erase head	1
2-33	82-439-228-31	Mounting screw, REC plate spring	1
2-49	82-493-247-01	Main belt	1
2-50	82-439-489-01	Flywheel ass'y	1
2-51	82-385-314-21	Rubber belt	1
2-52	82-385-311-01	Screw for thrust	1
2-53	82-474-219-11	Lower shaft bearing plate	1
2-60	82-385-309-21	Worm gear B ass'y	1

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Ref. No.	Part No.	Description	Q'ty
1-101	87-261-094-21	V + 3-6	3
1-102	87-261-095-21	V + 2-8	3
1-103	87-261-096-21	V + 3-10	8
1-104	87-253-172-11	U + 4-12	4
1-105	87-351-074-21	UT_1 + 2.6-8	8
1-106	87-351-094-21	VT_1 + 3-6	2
1-107	87-351-096-21	VT_1 + 3-10	5
1-108	87-351-097-21	VT_1 + 3-12	1

Ref. No.	Part No.	Description	Q'ty
1-109	87-351-099-21	VT_1 + 3-15	1
1-110	87-341-073-21	UT_1 + 2.6-6	3
1-111	87-352-107-21	VT_2 + 3-45	2
1-112	87-510-095-01	VTF + 3-8	4
1-113	87-391-034-11	N-4	4
1-114	87-441-009-01	STE-3	1
1-115	87-442-002-01	STP-2	1
1-116	87-442-004-01	STP-4	1

Ref. No.	Part No.	Description	Q'ty
2-101	87-261-092-21	V + 3-4	12
2-102	87-261-094-21	V + 3-6	2
2-103	87-261-095-21	V + 3-8	2
2-104	87-351-094-21	VT_1 + 3-6	3
2-105	87-351-096-21	VT_1 + 3-10	25
2-106	87-351-102-21	VT_1 + 3-20	2

Ref. No.	Part No.	Description	Q'ty
2-107	87-081-876-01	UTT + 4-8	4
2-108	87-081-782-01	VTT_2 + 3-4	10
2-109	87-081-785-01	VTT_2 + 3-8	8
2-110	87-513-096-01	VTF_2 + 3-10	2
2-111	87-374-092-11	SS3-4	1
2-112	87-081-253-11	N-9	1
2-113	87-253-033-01	U + 2-4(Black)	2
2-114	87-253-095-01	U + 3-8(Black)	2

Ref. No.	Part No.	Description	Q'ty
3-101	87-251-070-21	U + 2.6-3	3
3-102	87-351-095-21	VT_1 + 3-8	3
3-103	87-351-096-21	VT_1 + 3-10	5
3-104	87-351-097-21	VT_1 + 3-12	4
3-105	87-341-037-21	UT_1 + 2-10	1
3-106	87-341-038-21	UT_1 + 2-12	1
3-107	87-341-073-21	UT_1 + 2.6-6	4
3-108	87-321-073-21	QT_1 + 2.6-8	1
3-109	87-321-096-21	QT_1 + 3-8	1

Ref. No.	Part No.	Description	Q'ty
3-110	87-352-105-21	VT_2 + 3-35	1
3-111	87-081-276-01	VT_2 + 3-38	1
3-112	87-480-071-01	VS + 2.6-4	1
3-113	87-081-300-01	FW2.6-6-0.5	1
3-114	87-441-003-01	STE-1.5	1
3-115	87-442-004-01	STP-4	4
3-116	87-450-411-01	LB-1	1
3-117	87-450-412-01	LB-2	3

HARDWARE NOMENCLATURE

V: Pan head screw

U: Binding head screw

VT_1: Pan head tapping screw

UT_1: Binding head tapping screw

VT_2: Pan head tapping screw

QT_1: Flat countersunk head tapping screw

VTF: Flange and Pan head tapping screw

VS: Pan head screw with spring washer

UTT: Pan head tap-tight screw

VTT_2: Pan head tap-tight screw

VTF_2: Flange and Pan head tapping screw

STP: Powerful stop ring

STE: E ring

FW: Fiber washer

LB: Lug terminal plate

N: Nut

SS: Set screw

Example: V + 3 – 6
- Length in mm
- Diameter in mm
- Type of Slot
- Type of Head

Example: Q + 3 – 6
- Length in mm
- Diameter in mm
- Type of Slot
- Type of Head

Description of special circuitry

Preset tuning circuit

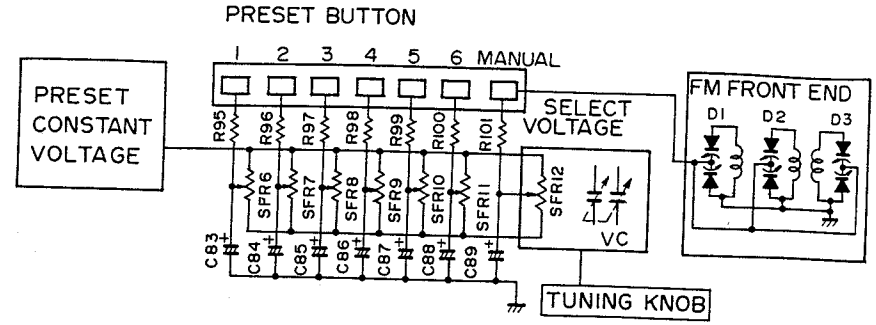
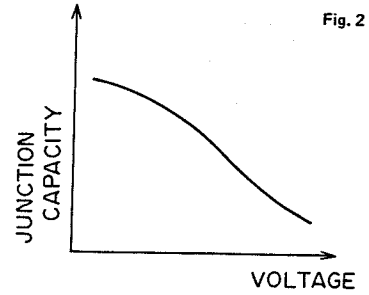

PRESET BUTTON
1 2 3 4 5 6 MANUAL
PRESET CONSTANT VOLTAGE
SELECT VOLTAGE
FM FRONT END
D1 D2 D3
R95 R96 R97 R98 R99 R100 R101
SFR6 SFR7 SFR8 SFR9 SFR10 SFR11 SFR12
VC
C83 C84 C85 C86 C87 C88 C89
TUNING KNOB

Fig. 1

LC resonance circuits, which are composed of coils (L) and capacitors (C), are almost always used in the front end circuitry of FM tuners commonly employed today. This tuning circuit features variable capacitors which are used to select the desired reception frequency by varying the capacitance. However, this model features a preset tuning circuit system. It is an electronic tuning circuit which substitutes varactor diodes for the capacitors of the LC resonance circuit and which allows the supplied voltage to be varied in order to achieve the same effect as the LC resonance circuit.

By varying the reverse bias voltage, which is a characteristic of varactor diodes, the junction capacitance (C) is made to change. In other words, the voltage-dependency characteristics of the diodes are used to produce the desired effect. (See Fig. 2)

Fig. 2



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[Reference]

$$\frac{C_{max} + C_D}{C_{min} + C_D} = \left(\frac{f_{max}}{f_{min}}\right)^2 = k$$

C_{max} C_{min}: Maximum and minimum values of varactor diode capacitance

C_D: Stray capacitance, trimmer capacitance

f_{max}: Maximum reception frequency

f_{min}: Minimum reception frequency

Since tough demands are placed on the selectivity of FM tuners, devices with as high a Ω factor as possible are required. For this reason, epitaxial planar devices which allow devices with a low resistance to be used, are employed.

In Fig. 1 each of the preset buttons is provided with a variable resistor (VR through VR) for each of the broadcasting stations (six with this model). Once the resistances of these resistors are preset to the reception frequency of the corresponding broadcasting station, the voltage, which is supplied from the preset regulated power supply to the position at which the desired broadcasting station is tuned with the preset button, is supplied to the varactor diodes (D1, D2, D3, 1SV55) via the variable resistors, the required capacitance is provided, and the resonance frequency of the resonance circuit composed of the diodes and coils is determined. This circuit system, which connects the varactor diodes displaying the two characteristics alternately in the reverse direction and which supplies the voltage at the midpoint, displays commendable values with respect to the dynamic range for high input signals, intermodulation distortion and others. As has already been mentioned, the control voltage is an important factor with the preset tuning circuit, and it is essential that the control voltage be stabilized and that the frequency drift be improved by the AFC circuit. If, in an electronic preset tuning circuit, the resistance is set beforehand to correspond to the required broadcasting stations with the variable resistors, there is no need to rotate a tuning knob and all that has to be done in order to tune a station and receive the program is to depress the correspondjng preset button. However, in the manual mode, the system can be made to function in the same way as a conventional tuner since the broadcasting station is tuned in with the tuning knob.

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3 Playback Level Adjustment

Settings:
- Test tape: TTA-161
- TAPE SELECTOR switch: LH
- Adjustment locations: SFR401 (L-ch)
  SFR402 (R-ch)

Method:
Play back the test tape and adjust so that the output is 280 mV.

ias Trap Coil Adjustment

tings:
Recording mode
TAPE SELECTOR switch: CrO_2
REC VOLUME: MAX
Test points: TP11 (L-ch), TP12 (R-ch)
Adjustment locations: L401 (L-ch), L402 (R-ch)
hod:
Adjust L401, L402 so that the voltage is reduced
o minimum value.

/PB. Frequency Characteristic Adjustment

s:
t tape: TTA-119E
LBY NR switch: OFF
PE SELECTOR switch: Fe-Cr
ustment locations: SFR407 (L-ch)
SFR408 (R-ch)
:
e REC./PB. the 1 kHz and 10 kHz portions of
test tape, adjust SFR407, 408 so that the output
he 10 kHz portions is ±0.5 dB than that of the
lz portion.

4 Fe-Cr REC./PB. Output Adjustment

Settings:
- Recording mode
- Test tape: TTA-119E
- TAPE SELECTOR switch: Fe-Cr
- DOLBY NR switch: OFF
- Adjustment locations: SFR403 (L-ch)
  SFR404 (R-ch)

Method:
Play back test tape and adjust so that the output becomes −34 dB.

1 Azimuth Adjustment

Settings:
- Play back mode
- Output level: MAX
- Test tape: TTA-117E
- Adjustment location: azimuth adjusting screw

Method:
Play back the test tape and adjust so that the output of the 10 kHz section reaches the maximum and same phase for both

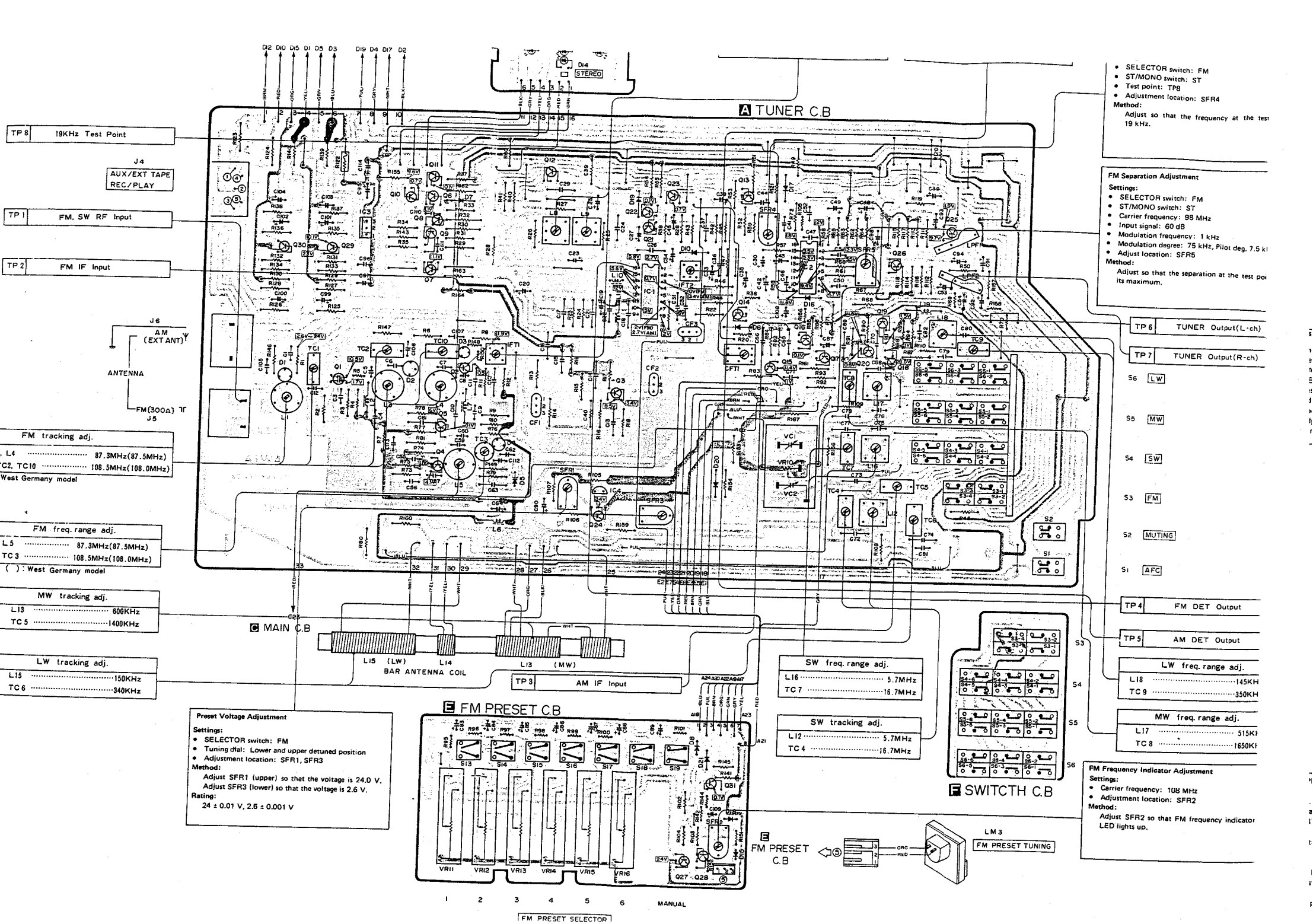
6 Meter Level Adjustment

Settings:
- Input signal: AUX, −14 dB, 400 Hz
- DOLBY NR switch: OFF
- Adjustment locations: SFR405 (L-ch)
  SFR406 (R-ch)

Method:
Adjust SFR405, 406 so that the level is 0VU.

TP10 Bias Test Point(R-ch)
TP 9 Bias Test Point(L-ch)
TP12 Bias Trap Test Point(R-ch)
TP11 Bias Trap Test Point(L-ch)

D PRE AMP/SWITCH C.B
C MAIN AMP C.B
B REC/PB C.B
J OSC C.B
K LED C.B
L PLAY
M LAMP C
O RELAY C.B
P PHONO MOTOR C.B
S21 DOLBY NR
S22 TAPE SELECTOR
VR7,8 REC LEVEL
VR8 RIGHT VR7 LEFT
S24 OSC
S27 (SPEED SELECTOR)
S26 (PHONO MOTOR)
S29 (SYNCHRO OPERATION)
S30 (SYNCHRO OPERATION)
S31 (MUTING)
S32 (CrO2 BIAS)
S33 (AUTO STOP)
S34
PU. ASS'Y
M2 (PHONO MOTOR)
(CARTRIDGE)
LM2 RIGHT VU
LM1 LEFT VU
(VU METER LAMP)
PL2
PL1
(CASSETTE ROOM
MECHA EARTH
RPH
EH
PLAY LEVER EARTH
REC
DOLBY NR
EARTH


A TUNER C.B
C MAIN C.B
E FM PRESET C.B
F SWITCTH C.B
TP 8 19KHz Test Point
J4 AUX/EXT TAPE REC/PLAY
TP 1 FM. SW RF Input
TP 2 FM IF Input
J6 AM (EXT ANT)
ANTENNA
FM(300Ω) J5
TP 6 TUNER Output(L-ch)
TP 7 TUNER Output(R-ch)
S6 LW
S5 MW
S4 SW
S3 FM
S2 MUTING
S1 AFC
TP 4 FM DET Output
TP 5 AM DET Output
TP 3 AM IF Input
L15 (LW) L14 L13 (MW)
BAR ANTENNA COIL
LM3 FM PRESET TUNING
1 2 3 4 5 6 MANUAL
FM PRESET SELECTOR
FM tracking adj.
L4 ..... 87.3MHz(87.5MHz)
TC2, TC10 ..... 108.5MHz(108.0MHz)
West Germany model
FM freq. range adj.
L5 ..... 87.3MHz(87.5MHz)
TC3 ..... 108.5MHz(108.0MHz)
( ) : West Germany model
MW tracking adj.
L13 ..... 600KHz
TC5 ..... 1400KHz
LW tracking adj.
L15 ..... 150KHz
TC6 ..... 340KHz
SW freq. range adj.
L16 ..... 5.7MHz
TC7 ..... 16.7MHz
SW tracking adj.
L12 ..... 5.7MHz
TC4 ..... 16.7MHz
LW freq. range adj.
L18 ..... 145KH
TC9 ..... 350KH
MW freq. range adj.
L17 ..... 515KH
TC8 ..... 1650KH
Preset Voltage Adjustment
Settings:
• SELECTOR switch: FM
• Tuning dial: Lower and upper detuned position
• Adjustment location: SFR1, SFR3
Method:
Adjust SFR1 (upper) so that the voltage is 24.0 V.
Adjust SFR3 (lower) so that the voltage is 2.6 V.
Rating:
24 ± 0.01 V, 2.6 ± 0.001 V
• SELECTOR switch: FM
• ST/MONO switch: ST
• Test point: TP8
• Adjustment location: SFR4
Method:
Adjust so that the frequency at the test
19 kHz.
FM Separation Adjustment
Settings:
• SELECTOR switch: FM
• ST/MONO switch: ST
• Carrier frequency: 98 MHz
• Input signal: 60 dB
• Modulation frequency: 1 kHz
• Modulation degree: 75 kHz, Pilot deg. 7.5 k
• Adjust location: SFR5
Method:
Adjust so that the separation at the test poi
its maximum.
FM Frequency Indicator Adjustment
Settings:
• Carrier frequency: 108 MHz
• Adjustment location: SFR2
Method:
Adjust SFR2 so that FM frequency indicator
LED lights up.

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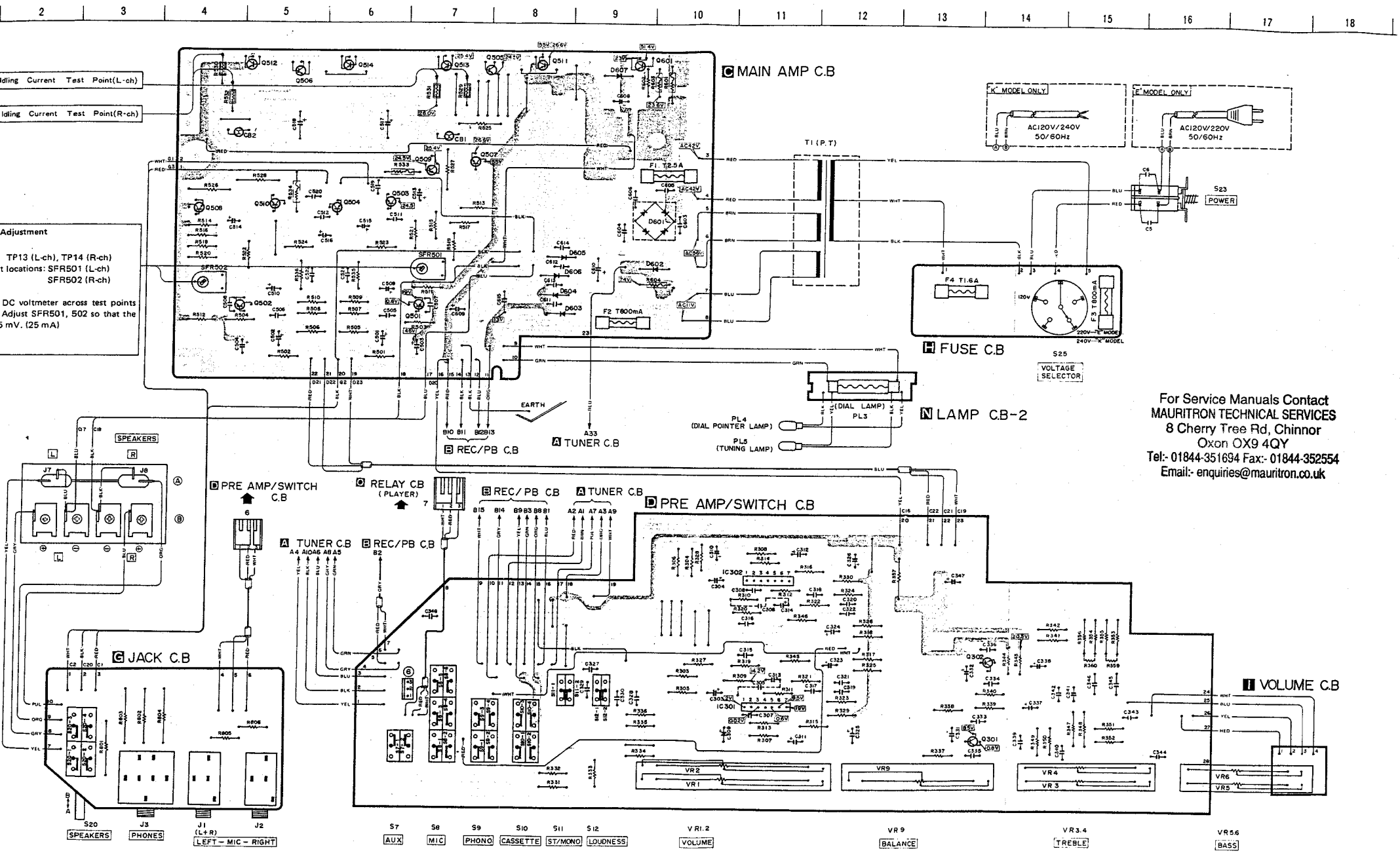

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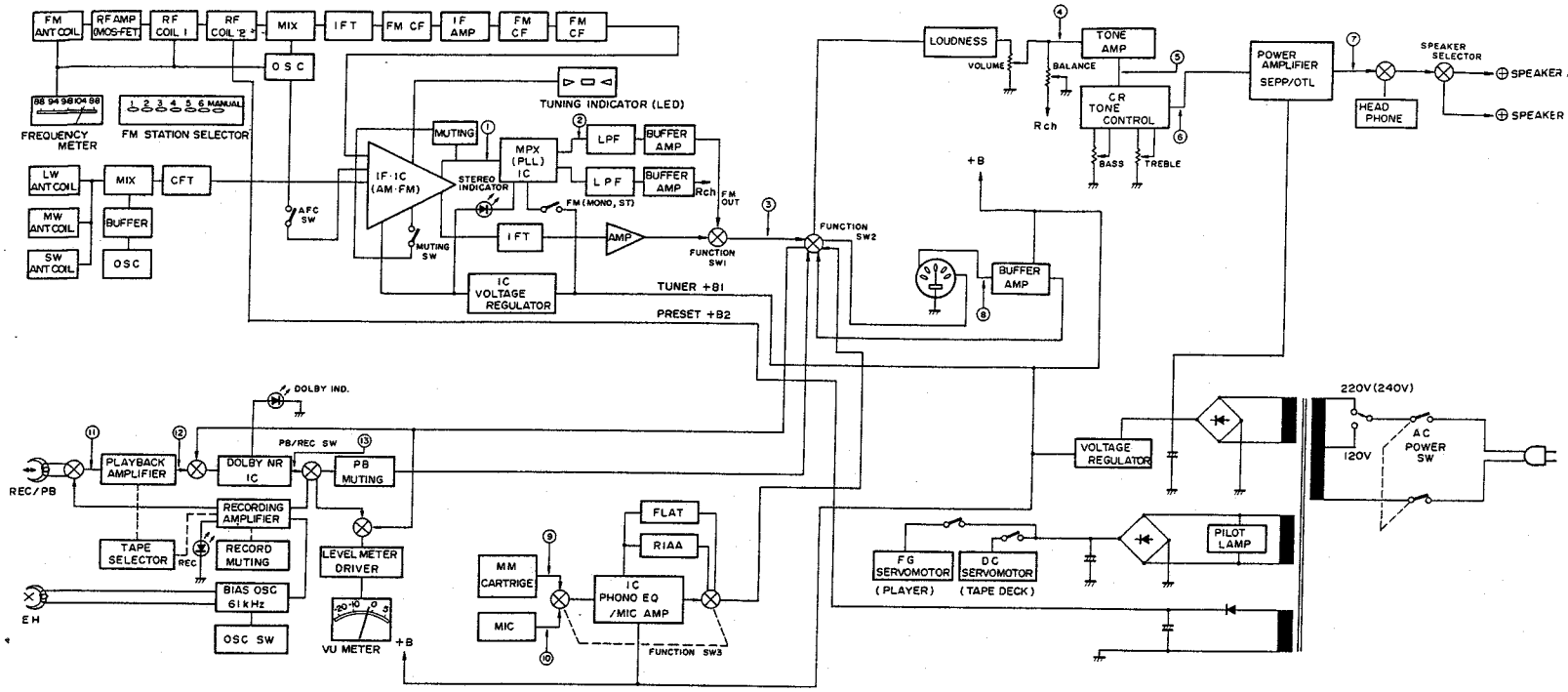
(1) B (+) Pattern Others pattern

(2) The voltage is reference value measured with a tester (20K ohms/V DC) when there are no signals.

MODEL NO. AF-5300E,K MODEL NO. AF-5300E,K

BLOCK DIAGRAM



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LEVEL DIAGRAM